

Amendments to the Claims

1. (currently amended) A surgical instrument, comprising:
 - an end effector responsive to a longitudinal firing motion to perform a surgical operation;
 - a shaft distally connected to the end effector;
 - a firing member within the shaft to transfer the firing motion to the end effector; and
 - a handle proximally connected to the shaft and firing member, comprising:
 - a housing,
 - a firing control configured for manual movement by an operator in a firing direction and in an opposite return direction, and
 - a firing mechanism comprising an axle passing through the firing control, an engagement member operatively configured to rotate about the axle into engage with the firing member, and a biasing wheel attached to the axle, and frictionally biased to couple with said firing member when said firing control moves in said firing direction

a handle housing including a friction surface attached to the handle housing and laterally aligned to contact the biasing wheel to effect engagement of the engagement member to the firing member during firing direction of the firing control and to rotate the engagement member away from the firing member during the opposite return direction of the firing control for multi-stroke firing with reduced ratcheting noise and with reduced likelihood of binding in the firing mechanism.
2. (original) The surgical instrument of claim 1, wherein said end effector comprises a stapling device responsive to the longitudinal firing motion to perform the surgical operation of stapling.
3. (original) The surgical instrument of claim 2, wherein said end effector comprises:
 - an elongate channel connected to said shaft;
 - an anvil pivotally coupled to said elongate channel for clamping tissue; and
 - a staple cartridge received in said elongate channel;wherein said firing member distally terminates in a firing bar operably configured to actuate said staple cartridge to form staples in the clamped tissue.

4. (original) The surgical instrument of claim 3, further comprising a closure means of said stapling device.

5. (canceled)

6. (currently amended) The surgical instrument of claim 1, wherein a proximal portion of the firing member comprises ~~further including~~ a rack movably coupled in the handle ~~with said firing member~~ and operably coupling with said firing mechanism when said firing mechanism is actuated.

7.-8. (canceled)

9. (currently amended) The surgical instrument of claim & 1, wherein said firing control further comprises a trigger, an upper portion of said trigger traversing an arc during manual movement, the axle passing through the upper portion of said trigger, at least a portion of a ~~selected one of a group consisting of said~~ the friction surface and biasing surfaces ~~being arcuate.~~

10. (currently amended) The surgical instrument of claim & 1, wherein ~~a selected one of a group consisting of (i) said~~ the friction surface and (ii) said biasing surface is deformable ~~comprises a resilient material.~~

11. (currently amended) The surgical instrument of claim 10, wherein the ~~selected one of the group consisting of (i) said~~ friction surface ~~and (ii) said biasing surface~~ comprises an elastomer.

12. (currently amended) The surgical instrument of claim & 1, wherein the selected one of the group consisting of said friction surface and said biasing ~~surface~~ wheel is smooth.

13. (currently amended) The surgical instrument of claim & 1, wherein the ~~selected one of the group consisting of said~~ friction surface ~~and said biasing surface~~ is toothed.

14. (currently amended) The surgical instrument of claim 9 1, wherein the selected one of the group consisting of said friction surface and said biasing ~~surface~~ wheel has a coefficient of friction between approximately 0.04 and approximately 0.4.

15. (canceled)

16. (currently amended) A surgical instrument, comprising:
an end effector responsive to a longitudinal firing motion to perform a surgical operation;
a shaft distally connected to the end effector;
a firing member slidably received by the shaft to transfer the firing motion to the end effector; and
a handle proximally connected to the shaft and firing member, comprising:
a rack distally coupled to the firing member,
a firing control responsive to an operator to move in a firing direction and a return direction, and
a firing mechanism including a frictionally biased pawl ~~adapted to~~ and a biasing wheel both rotatably attached via an axle to couple the firing control, the pawl rotated in engagement to the rack to impart the firing motion in response to movement of the firing control in the firing direction, wherein further said pawl is adapted to disengage the firing control from the rack in response to movement of the firing control in the return direction,
a handle housing, and
a friction surface attached to the handle housing and laterally aligned to contact the biasing wheel to effect engagement of the pawl to the rack during firing direction of the firing control and to raise the pawl away from the rack during return direction of the firing control for multi-stroke firing with reduced ratcheting noise and with reduced likelihood of binding in the firing mechanism.

17. (original) The surgical instrument of claim 16, wherein said end effector comprises a stapling device responsive to the longitudinal firing motion to perform the surgical operation of stapling.

18. (original) The surgical instrument of claim 17, wherein said end effector comprises:
an elongate channel connected to said shaft;
an anvil pivotally coupled to said elongate channel for clamping tissue; and
a staple cartridge received in said elongate channel;
wherein said firing member distally terminates in a firing bar operably configured to actuate said staple cartridge to form staples in the clamped tissue.

19. (currently amended) A surgical instrument, comprising:
an end effector responsive to a longitudinal firing motion to perform a surgical operation;
a firing actuator operably configured to produce the firing motion in response to a user; and
a firing means for frictionally coupling the firing motion of the firing actuator to the end effector by frictionally converting a firing motion to a rotation motion of a pawl into engagement with a rack and frictionally converting an opposite return motion to an opposite rotation motion of the pawl out of contact with the rack to eliminate ratchet noise.

20. (new) The surgical instrument of claim 1, wherein the biasing wheel comprises a resilient material.

21. (new) The surgical instrument of claim 20, wherein the biasing wheel comprises an elastomer.

22. (new) The surgical instrument of claim 1, wherein the biasing wheel is toothed.